5.

SOME PROBLEMS OF PRESBYOPIA.*

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When I began practice I did as I had been taught regarding the correction of presbyopia. Text-books, teachers, and general custom agreed that presbyopia began sometime after forty, and that no mydriatic was needed in such patients. There was a rough rule wandering about that plus spherical lenses of one diopter were needed in forty-five-year-old patients, twos at fifty, threes at sixty. This was about the time of the "Punch, Brother, Punch with care, a blue slip ticket for a five-cent fare, etc." Actual dealing with presbyopic patients soon brought me up sharp. Rules like those of the street car conductors would not work out in the oculist's office. If any rules at all were admissible they had to be of a different kind from those of the text-books; in some ways far more definite, in others more indefinite. Some of these cautions I have brought to clearness are as follows:

1. In oncoming and progressive presbyopia, cycloplegia is generally necessary to obtain the static refraction on which the presbyopic correction is based.

Precisely in eyes whose accommodation powers is being narrowed and lessened is the mydriatic most needed in order that eyestrain may not be increased by the close limits in which function is being compressed. When there is youth and a high range of accommodation the refractive error may not produce the injury taking place in the presbyopic. This is a truth so self-evident that it is astonishing to find it utterly ignored in Europe and too commonly ignored in our country.

The slightest misplacing of the axis of astigmatism,

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the failure to get the accurate amount of the error of refraction, the least imprecision in correcting the slight anisometropia, insure more trouble in the presbyopically lamed eyes than in others with plasticity and with activity of neutralizing or compensating powers. If there are symptoms of eyestrain, and especially if accompanied with any doubts in my mind as to accuracy, I do not hesitate to use a mydriatic up to the ages of fifty-five or sixty. I think almost all patients up to fifty should have it. I mean homatropin and cocain, and instilled in the office.

Discrimination as to those with latent or manifest glaucomic tendencies is, of course, demanded. The individual expertness of the oculist must also be considered. The art of refraction requires a skill, a judgment and a delicacy of perception, as great and rare as in any other calling, greater, I believe, than in surgical or inflammatory conditions. A highly exceptional mastery of the art may succeed in estimating the error of refraction without a mydriatic when others would fail. None may safely lay claim to such ability. None, at least, may safely trust himself in its habitual employment. Easy going assumption of it is another phasing of the characteristics which have duped us since proverbs and folk-tales and the ophthalmometter were invented.

2. The age at which presbyopic correction should first be given depends on the pre-existing refractive error.

The old rules as to forty-five, etc., are nonsense. If the patient has two diopters of hyperopia, the presbyopic correction will be needed much earlier than if he is emmetropic. If he has myopia, the necessity will arise later, as is well understood. But astigmatism creates a greater indefiniteness, and especially if it is unequal, or if unsymmetric. Anisometropia further complicates all rules and makes them still more indefinite. The onset of troublesome presbyopia also depends on whether the ametropia has been corrected or not for years previous.

3. The correction of the presbyopic error of one or both eyes is often dependent on the existence in one eye of amblyopia from disuse.

This exclusion of one eye from function always brings most difficult problems. If of high degree and of long standing it may not be possible to get reaction or to stimulate the lost power into function. As a rule I believe in saving partially ruined eyes, and it is possible

to do so more often than has been supposed. Sueh eycs exist far more frequently than tcxt books and teachers tell us about. In some rare eascs at the presbyopic age the attempt to save the eye and bring it into function is not only possible, but will produce most decided rebellion on the part of eye and brain. Thesc "hurt eyes," with stippled maculas which let you stare at them, and which so plainly show neglect and sin, both lay and medical, are daily visitors to the oculist's offiee, and they make his hair gray sooner than should be.

4. Less accommodation in one eye than in the other may condition the amount of the presbyopic eorrection.

This inequality of funetion may be the result of anisometropia, of right-eyedness or left-eyedness, of a peculiarity of occupation, of monocular disease or injury, of heterophoria, etc. It is of more frequeney than is suspected, and causes much ill-succcss in thc correction of presbyopia.

5. The onset of presbyopia demanding correction may be delayed beyond the usual age by hypertrophied aeeommodation.

This abnormalism of excessive aeeommodation is the result of lack of presbyopic lenses, with the resultant over-funetion of the ciliary musele and abnormally retained elasticity of the lens. Excessive use of any organ, or abnormally prolonged use, produees disease. That of the aceommodation in presbyopia eauscs eyestrain and all of its reflexes. Thc eye itself or the organs which bear the brunt of the derouted reflexes must suffer. I have heard of one oeulist who attempted for many years to postpone presbyopia requiring eorrection into old age. That is a human vivisection experiment that would be somewhat interesting to seience, but which I should be far from wishing to try in my own case. We see daily the injury and the suffering it causes in old people who indulge in the puerilc vanity of ability to "read without glasses." The result is that they do not read much, their little intelleet goes to seed, and the little reading they do produees disease.

6. The eorreetion of presbyopia at an early or late age, and the high or low degree of the error depends on the amount of near work demanded of the eycs.

In nonreading farmers, workmen, seamen, etc., the eorreetion is not required to be made at so carly an age, nor perhaps in so high a degree as in sewingwomen,

literary people, engravers, etc. A hurried test may also result in a too low correction, because the accommodation by a moment's intense effort may prefer a lower lens than would be required in more prolonged use of the eyes at near range.

7. Presbyopes who deceive the oculist as to their age may suffer if he has not been alert minded to detect the error.

One must be on his guard in treating "women of doubtful age."

8. The peculiarity of the habitual occupation may necessitate a higher and earlier correction than is usual.

Embroidering, "sewing on black," engraving, watchmaking, measuring in sixty-fourths of an inch, etc., are kinds of employment that make inordinate demands on the accommodation.

9. The light, its quality, power, etc., must also be inquired into.

If a patient works all day by artificial light, or by poor daylight, in darkened rooms, if the angle at which even a good light strikes the work is not right, eyestrain is sure to result. If after a long day of strain, under these hurtful conditions, reading, sewing, etc., are continued at home, and again perhaps, with bad lights, the results must be deplorable.

10. The position of the body and head in sewing, reading, or other near work, may be harmful to the eyes and the general health.

If the book, sewing material, writing, etc., is placed in the lap, or in such a position that the head is bent over, the spine curved, and the chest flattened, the injury to the patient's eyes is almost certain because of nonillumination of the page, paper, etc., and also because of the improper position of the eyes and head. The health generally must be harmed by the compressed condition of the pelvic organs and the lungs, poor respiration, etc.

Bookkeepers, etc., should stand at their work as much as they may, and chairs at desks should be low, the desk high, the writing leaf inclined, the axis of vision as nearly as may be perpendicular to the plane of work and of the spectacle lenses. The single disadvantage of the bifocal lenses is that they compel the axis of vision to be inclined downward. For this reason they should be set high before the eyes, and the habit advised of

"chin-up." Book rests, book holders, etc., should be encouraged. In my boyhood "sewing-birds" screwed to tables were common. They were most excellent devices.

11. The state of the general health, the preserved vitality, the vigor of will and of body, will also condition the early or high correction.

A flaccid muscular tone, anemia, denutrition, care and worry, a melancholic or pessimistic disposition or philosophy of life, may not be entirely overlooked. Patients so handicapped require a fuller or earlier presbyopic correction than those who are more vigorous. Their innervational power is lessened and sometimes nothing the oculist can do will enable them to carry on severe near work when presbyopia doubles their strain.

12. Failure to cure the reflexes of eyestrain may be due to the want of bifocals.

Two separate pairs of lenses can not correct eyestrain as do the double lenses. With a distant pair only, there is an hour or more of strain every day in eating meals. There is also forgetfulness to change or indifference to the need of it, lenses are not repaired, are misplaced or lost, etc. The one disadvantage of bifocal lenses is counterbalanced a hundred times by the manifest benefits over the distant and near glasses made separate.

13. Eyeglasses being more prone to maladjustment than spectacles may be the cause of failure to bring relief of the symptoms or sequels of presbyopic eyestrain.

There are few noses capable of retaining bifocal eyeglasses in a correct position. The more expert the optician the more the attempt may be tried. This is especially true if the patient can consult the fitter at least once a month. Patients who by reason of living at a distance can not do so should not be allowed bifocal eyeglasses under any circumstances. To those with high degrees of astigmatism they must also be forbidden, except for one nose in ten thousand. Vanity causes a deal of suffering both to patient and oculist. It may prevent the patient wearing any glasses, and thus double the local and systemic reflexes. When, as usual, vanity demands eyeglasses, and the result is certain to prove bad, my custom is to tell the patient to consult another oculist. No greater ill fortune could happen to your rival than to have the patient go to him! And there is no better punishment for vanity than eyeglasses, unless it be the rest cure.

14. Premature presbyopia, or paresis of the accommodation, may occur years before the usual age, and explain failure to relieve symptoms when none of the preceding causes will do so.

The patient may have contracted a chronic habit of reading at too great a distance, and the presbyopic lenses ordered may force him to hold the page or sit at writing at a shorter distance than is comfortable or perhaps best.

This is especially true if there is exophoria or insufficient adduction power. If this is so, the adduction should be increased until comfort is secured, habitual reading or writing at, say, 20 inches may itself be a source of eyestrain.

16. The patient may have supernormal adduction power and the presbyopic lenses ordered may force him to read or write at too short a distance.

In this case, at least until the adduction lessens, the too weak lenses may cause discomfort.

17. The symptoms may not be due to presbyopia, nor to any eyestrain, but to systemic disease.

Every oculist has had many patients whose symptoms had been treated by glasses alone, or whose ocular muscles had been "clipped," when all the time there was concealed or unknown systemic disease, e. g., nephritis, diabetes, anemia, etc., or some morbid result of bad dietetic or other habits, which were the only or chief causes of trouble. This does not in the least excuse those wonderful oculists who find that all eyestrain symptoms and reflexes are due to systemic conditions. That is a good way to please the referer of cases, and to conceal inaccurate refraction. But it is not the best way to practice ophthalmology.

The preceding rules are, in fact, non-rules; they are in truth, cautions to have no rules in correcting presbyopia. Every case is exceptional and individual and requires a freedom of the mind from bias or prejudice of any kind. Precision in estimating the conditions, infinite patience, delicacy, and conscientiousness, in hunting out the individual variation there before one, and inexhaustible ingenuity in meeting all the varied and varying phases and factors, are the prerequisites.

There is but one invariable rule: Have no rule. Rules are the makeshifts of the lazy and unintelligent. The cunning rely on them, forgetful that cunning is really stupidity. Optical machines are often rules made into

iron rods, scales and wheels. They may be of service if used not as dictators but as slight helpers, in the hands of the intelligent and guiding machinist, but they may serve as the excuse and ruin of those who rely on them to the exclusion of intelligence and diagnostic skill.

Any number of cases could be epitomized, illustrating the foregoing suggestions. I shall content myself with but few, because in every oculist's memory there doubtless arises plenty of examples.

Case 1.—A lawyer who carried on a tremendous amount of eye work had an enormously high and complicated compound hyperopic astigmatism. Despite a perfect correction of his ametropia by capable and good oculists, and despite the best treatment by general physicians, his dyspepsia persisted. In obedience to his demand his oculists had allowed him to wear bifocal eyeglasses. A difference of five degrees or ten degrees in his astigmatic axes, inevitably caused by maladjusted eyeglasses, rendered his ametropic correction worse than useless. They failed to cure their patient because they did not demand spectacles.

Case 2.—A woman of thirty-nine had sick headache which reappeared every few weeks despite my best correction of her low compound hyperopic astigmatism. I had three times gone over my work and found no change in her glasses was to be made. I feared I had what I had always been looking for—a typical migraine which I could not cure with glasses. Inquiry elicited the fact that the woman habitually did an enormous amount of literary work. I ordered presbyopic correction and bifocal spectacles to be worn constantly and the "migraine" has never shown a sign of itself since.

Case 3.—A healthy, clear-headed intellectual man was given two pairs of spectacles for his myopic astigmatism, a stronger or higher correction for use at the theater, driving, etc., a weaker correction for reading and daily or constant use. For a year his wife and daughter observed, without telling him, that whenever he wore the strong, or accommodation-exciting glasses he "caught cold" with coryza, hoarseness, etc., which at once disappeared when the weaker lenses were used. He used the stronger ones but few times a year. When certain of the strange coincidence his wife told her husband. In the past ten years the cold has been produced in this way, a hundred or more times. Now if his weaker glasses get "crooked," or maladjusted, miscorrecting his axis of astigmatism by a few degrees, his cold promptly appears, to vanish in an hour after a visit to the optician.

Case 4.—A gentleman of fifty years of age had consulted many of the most famous oculists because of severe and frequently recurring subconjunctival hemorrhages. Some of these

had refracted his eyes, some had not, but all had followed a not uncommon custom of charging such symptoms to gout. None had found any error of refraction, except, of course, a couple of diopters of presbyopia. By the most competent authority his eyes had been pronounced mathematically emmetropic and perfect. None, of course, had used a cycloplegic. With paralyzed accommodation I found 0.25D of simple myopic astigmatism axis 180 degrees in each eye. For several years he has had no hemorrhages and by his glasses he has had also such relief from other cerebral symptoms that he has had heavy iron spectacles made for use in his bath, so that he may not be without lenses for a minute.

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